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## **6. COMMUNITY AND SOCIAL DATA UPDATE**

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According to National Standard 8 (NS 8), conservation and management measures should attempt to both provide for the continued participation of a community and minimize the economic effects on the community. Complying with NS 8 is contingent upon the availability of community studies and profiles as well as regional economic analyses. The information presented here addresses new data concerning the social and economic well-being of participants in the fishery and considers the impact of significant regulatory measures enacted in the past year.

### **6.1 Overview of Current Information and Rationale**

The Magnuson-Stevens Act requires all fishery management plans (FMPs) to include a fishery impact statement intended to assess, specify, and describe the likely effects of the measures on fishermen and fishing communities (§303(a)). When establishing any new regulations, the cultural and social framework relevant to the fishery and any affected fishing communities (§303(b)(6)) must be taken into account.

The National Environmental Policy Act (NEPA) also requires federal agencies to consider the interactions of natural and human environments by using “a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences ... in planning and decision-making” (NEPA §102(2)(a)). Federal agencies should address the aesthetic, historic, cultural, economic, social, or health effects of regulations which may be direct, indirect, or cumulative. Consideration of the social impacts associated with fishery management measures is a growing concern of managers as fisheries experience variable participation and are affected by declines in stocks.

Social impacts are defined as the consequences to human populations that follow from some type of public or private action. These consequences may include changes in “the ways in which people live, work or play, relate to one another, organize to meet their needs and generally cope as members of a society ...” (NMFS, 1994). In addition, cultural impacts may involve changes in the values and beliefs that affect the way people identify themselves within their occupation, their communities, and society in general. Social impact analyses help determine the consequences of policy action in advance by comparing the status quo with the projected impacts. Public hearings, scoping meetings, and Advisory Panel meetings provide input from those concerned with the impacts of a proposed management action.

While geographic location is an important component of a fishing community, management measures often have the most identifiable impacts on fishing fleets that use specific gear types. In addition, since the species managed by the HMS FMP are by definition highly migratory, fishermen tend to shift locations in an attempt to follow the fish. The geographic concentrations of HMS fisheries may also vary from year to year as the behavior of these

migratory fish is somewhat unpredictable. The relationship between these fleets and geographic fishing communities is not always a direct one. As a result, the inclusion of typical community profiles in HMS management decisions is difficult.

NMFS (1994) guidelines for social impact assessments specify that the following elements are utilized in the development of FMPs and FMP amendments:

- Information on distributional impacts, non-quantifiable considerations such as expectations and perceptions of the alternative actions, and the potential impacts of the alternatives on both small economic entities and broader communities;
- Descriptions of the ethnic character, family structure, and community organization of affected communities;
- Descriptions of the demographic characteristics of the fisheries;
- Descriptions of important organizations and businesses associated with the fisheries;
- Identification of possible mitigating measures to reduce negative impacts of management actions on communities.

To help develop this information for the HMS FMP and the Billfish Amendment, NMFS contracted with Dr. Doug Wilson, from the Ecopolicy Center for Agriculture, Environmental and Resource Issues at Rutgers, the State University of New Jersey. Dr. Wilson and his colleagues completed their field work in July 1998. This study covered four species groups (tunas, swordfish, sharks, and billfish) that have important commercial and recreational fisheries extending along the Atlantic and Gulf coasts from Maine to Texas and in the Caribbean. The study investigated the social and cultural characteristics of fishing communities in five states and one U.S. territory: Massachusetts, New Jersey, North Carolina, Florida, Louisiana, and Puerto Rico. These areas were selected because they each have important fishing communities that could be affected by measures included in the HMS FMP and the Billfish Amendment, and because they are fairly evenly spread along the Atlantic and Gulf coasts and the Caribbean. For each state or territory, a profile of basic sociologic information was compiled, with at least two coastal communities visited for further analysis. Towns were selected based on HMS landings data, the relationship between the geographic communities and the fishing fleets, and the existence of other community studies. Finally, the Advisory Panels for HMS and Billfish provided extensive input on which fishing communities should be included in this analysis. Complete descriptions of the study results can be found in Chapter 9 of the HMS FMP and Chapter 7 of the Billfish Amendment.

## 6.2 Summary of Current Social Data by Gear Type

### *Bottom Longline*

There have been no recent social studies or data available on the U.S. bottom longline fishery. During the winter, the directed shark fishery is concentrated in the southeastern United States. During the summer, shark species are more dispersed, allowing vessels in the mid-Atlantic and Northeast to participate. Most of the permit holders are located in the state of Florida, but similar to most HMS fisheries, some shark fishery participants move from their home ports to active fishing areas as the seasons change. In some cases, this can have a disruptive effect on the social structure of the effected community.

### *Commercial Handgear*

A study conducted in 1999, details key social and economic characteristics of the for-hire fishery in the offshore waters of Alabama, Mississippi, Louisiana, and Texas (Sutton *et al.*, 1999). The results of the study apply primarily to fishermen harvesting species governed by the Gulf of Mexico Fishery Management Council, but there is interaction with several stocks classified as highly migratory species. In addition, the general conclusions made about the charter and party boat fisheries can be applied to HMS management, notably the importance of industry participation in any further fishery management in the Gulf. Assessing the social and economic dynamics of the for-hire fisheries has been difficult since they tend to operate on a multi-species basis. NMFS will continue to monitor the charter and party boat fisheries to assess the social impact of regulatory actions.

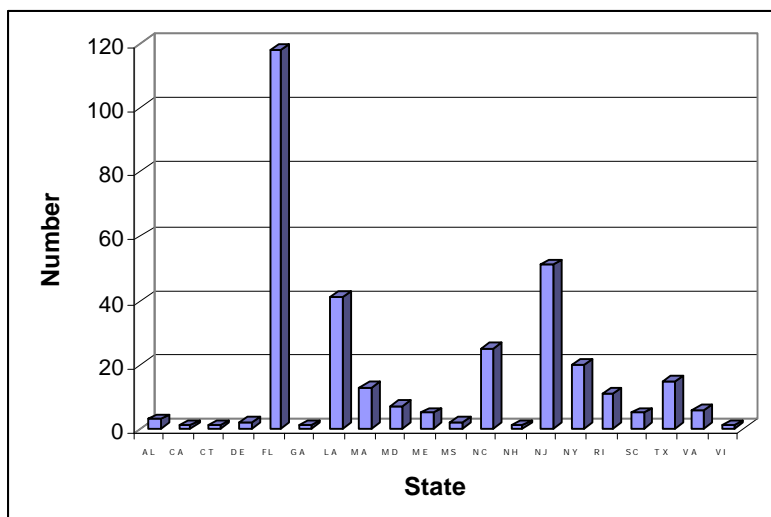
### *Drift Gillnet*

In 1999, twelve vessels in this fishery took 216 trips targeting shark species, with approximately three or four vessels accounting for the majority of these trips. The fishermen are located on the east coast of Florida and their trips are usually less than 18 hours long with harvesting occurring in areas within 30 nautical miles from port. Many of the fishermen utilizing this gear type participate in other commercial fisheries or outside of commercial fishing to supplement their income. If fishermen exit this fishery, it is unlikely there would be significant social impacts on the social structure of fishing communities due to its small size. Also, it is possible that participants could sell their shark permits to other interested fishermen to mitigate the costs of exiting the fishery.

### *Pelagic Longline*

A survey completed in 1996 (Hoey, 1996) examined the quality of life as perceived by members of this fishery. While the information is from several years ago, it demonstrates some of the predominant sentiments expressed by longline fishermen. In a comparison of current life as a

commercial fisherman with that of five years ago, fifty-two percent of the respondents claimed they were better off five years ago. To assess attitudes about future well-being, the respondents were asked to estimate their quality of life five years ahead and fifty-two percent answered that it would be worse than the present. The majority of the respondents indicated that federal regulations had an overall negative effect on the quality of personal life and the ability to fish commercially. Generally, any regulatory framework dampens the independent nature of fishing by



**Figure 6.1** Frequency distribution, by address, of pelagic longline vessels with directed or incidental swordfish limited access HMS permits. Source: NMFS permit database, November 2000.

dictating how, where, and when longlines can be set.

To assess the impacts of proposed regulations on pelagic longline fishermen, it is necessary to determine the geographic concentrations of permit holders. To do so, NMFS used the mailing addresses of permit holders on file. It is important to note that the addresses used to determine the permit distributions are not necessarily the home ports or communities in which the fishermen spend most of their time. The mailing addresses were selected to identify concentrations of family residences that may be impacted socially from additional management measures. Figure 6.1 depicts geographic distribution of the permit holders on file for 2000. Although a large fleet of longline vessels fish out of New England states, the greatest number of qualifying permit holders are found south of New York.

### *Purse Seine*

There have been no recent social studies or data available on the United States Atlantic tunas purse seine fishery. As a result of the limited entry system for purse seine vessels, NMFS can easily characterize the small number of participants (5 vessels and 3 owners) in the fishery.

## *Recreational Handgear*

In August 1999, a thesis was submitted to the College of Agriculture and Life Sciences of Texas A&M University that analyzed the management preferences of members of The Billfish Foundation (TBF) who responded to a mail survey (Gillis, 1999). The survey was sent to a random sample of 435 TBF members (approximately 11% of membership residing in the United States). A total of 229 surveys were completed and returned at a 57% response rate (excluding 24 surveys that were undeliverable). The study focused on billfish angler preferences for potential management measures necessary to achieve a 25% reduction in landings of Atlantic blue and white marlin. The management measures were those considered by NMFS in the Draft Billfish Amendment. Respondents evaluated sixteen potential management regimes defined by two levels of the six different management measures NMFS was considering as options.

The results of this study concern the preferences of TBF members only and therefore it cannot be concluded that the results represent the preferences of billfish anglers overall. As active members of one or more conservation groups, it would be expected that their preferences for management measures would differ from other billfish anglers who may not be involved in related conservation efforts. However, the study concludes that survey analysis can be a useful tool to define management regimes that achieve biological objectives while maximizing constituent satisfaction.

### **6.3 Summary of New Social and Economic Data Available**

*Fishing Ports of the Mid-Atlantic by Bonnie McCay and Marie Cieri. Report to the Mid-Atlantic Fishery Management Council. April, 2000.*

This report provides a social and economic examination of the fishing ports and coastal counties of six of the states that are represented on the Mid-Atlantic Fishery Management Council (New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina). The goal was to profile the recreational and commercial fisheries associated with ports in these areas. The impetus for this work is National Standard 8 of the Magnuson-Stevens Fishery and Conservation and Management Act, which stresses that conservation and management measures must consider the importance of fishery resources to fishing communities.

The report utilized information gathered from three primary sources: federal census and employment data for counties associated with commercial fishing; NMFS weigh-out data by port from 1998 and county data from North Carolina; and field visits and interviews or other published studies. The investigators implemented a “rapid rural appraisal” approach to the research. They conducted a little background research and then visited the places identified as fishing ports to question relevant respondents. The report provides insight into the social and economic status of the fishing communities along the mid-Atlantic seaboard.

The examination of the economic and social aspects of a community involved assessing the level of local support, such as zoning restrictions, proximity of service industries, and available dock space for commercial and recreational fishing businesses. The level of support for individuals employed in these sectors was evaluated through the types of cultural events available and the level of industry support present in the community. The researchers also considered the vulnerability of the fishing community by examining membership associations and the presence of community meeting places. Finally, the community was analyzed to characterize the ethnicity and gender composition as well as the presence of any migrant workers and overall skill of available laborers. The economic attributes were expressed by describing the different gears used per port, the species landed in each location and their value, the number of people involved, and the relevant census data. When coupled with the social assessment, an accurate depiction of the fishing community is provided.

The report has limited application for the social and economic assessments conducted by the HMS Management Division due to its geographic focus. The McCay and Cieri report does cover some of the communities in New Jersey (Cape May, Sea Isle City, Point Pleasant, and Barnegat Light) and North Carolina (Morehead City, Beaufort, Hatteras, and Wanchese) that harbor high numbers of HMS permit holders. The pertinent information about these communities can serve to improve the social data utilized in the 1999 FMP for those locations.

**Table 6.1**      **Percent value of HMS related gear types. Note: specific target species is not known.**  
Source: McCay and Cieri, 2000.

State	City	Gill Net, Drift	Gill Net, Sink	Handline	Longline, Bottom (or shark)	Longline, Pelagic	Otter Trawl, Fish	Troll Line	Other	
New Jersey	Barnegat Light	34.9	9.8	0.1	6.1	19.9	0.3	0.0	28.8	10,194,400
	Cape May	0.1	0.5	0.0	0.0	0.3	61.9	0.0	37.3	25,757,200
	Point Pleasant	0.7	13.5	0.1	0.0	0.2	17.7	0.0	67.8	16,715,400
North Carolina	Carteret County (Beaufort, Morehead City)	0.1	5.4	0.0	0.1	0.9	0.0	0.4	92.9	21,332,100
	Dare County (Hatteras, Wnachese)	0.0	22.5	0.0	0.8	5.8	0.0	6.1	64.6	23,511,500

## 6.4 Social Impacts of Prominent 2000 Regulatory Actions

### *Emergency Rule to Reduce Sea Turtle Bycatch and Bycatch Mortality in the Atlantic Pelagic Longline Fishery*

On October 13, 2000, NMFS issued an emergency rule lasting 180 days that closes a 55,970 square mile L-shaped area of the Grand Banks to pelagic longline fishing. The possession and use of a dipnet and line clipper on every pelagic longline vessel to assist in the removal of gear from incidentally caught sea turtles was also required by this regulatory action. From a socio-economic perspective, the time/area closure had a greater impact upon the relevant fishing communities than the gear requirements.

Seven vessels fished in the closed area in 1999. Gross revenues for these vessels from October 1 to March 31 are estimated to be \$548,439 in total and average \$78,348 per vessel in 1999. Closing this L-shape area from October 8 to March 31 could cause these vessels to lose approximately 70 to 79 percent in average gross revenues per vessel (based on earnings in 1998 and 1999) in the first and fourth quarters of 1998 or 1999. However, this assumes that these fishermen would not fish in any other area. NMFS believes that, although some revenues may be lost as a result of this closure, fishermen may be able to regain some of their revenues by fishing outside the restricted area. However, given the fact that the average gross revenues in 1998 and 1999 from the area outside the closed area is over 65 percent less than the average gross revenues from inside the closed area, NMFS recognizes that a large part of the revenues from fishing in the Grand Banks area could be lost. If fishermen decide not to fish or move to other areas, this reduction in revenues will be felt in the industries that support and rely on fishing. Thus, this closure could have a significant impact on the social communities that rely on the fishing revenue generated from that area.

Requiring the use of line clippers and dipnets to release hooked turtles is not expected to increase costs substantially. A similar rule for the fisheries in the Western Pacific estimated that the total cost for the materials to fabricate and/or purchase line clippers and dipnets to be \$250 (65 FR 16347). Use of line clippers and dipnets to release sea turtles is unlikely to change catch rates of target catch; therefore, this management measure is unlikely to change the gross revenues of fishermen. Because of the relative ease and cost of the new gear, these requirements are not expected to negatively impact the relevant fishing communities.

### *Prohibited Shark Species*

On June 12, 2000, a Judge granted a joint motion to allow NMFS to proceed with the implementation and enforcement of the prohibited shark species provisions in the HMS FMP that had been enjoined since June 30, 1999. The FMP prohibits the retention of shark species (exception for deepwater sharks) unless their stock size can support and sustain fishing mortality. All sharks not authorized to be retained must be released in a manner that ensures the maximum

probability of survival.

One of the species that is prohibited in the dusky shark, the prohibition of which will likely have adverse social impacts on both the commercial and recreational fisheries. Dusky sharks are preferentially retained relative to other shark species captured in the commercial directed shark fisheries and are targeted as a large game fish in recreational fisheries. Because approximately two to five percent of the large coastal shark commercial landings by weight are comprised of dusky sharks, commercial fishermen might experience reduced revenues. For the other large coastal, pelagic, and small coastal shark species, this action will likely have a negligible economic impact because only the uncommon species are prohibited and they comprise a minor portion of the landings.

#### *Reduction of Bycatch, Bycatch Mortality, and Incidental Catch in the Atlantic Pelagic Longline Fishery*

The regulation implementing time/area closures to reduce bycatch and prohibit the use of live bait in the pelagic longline fishery in the Gulf of Mexico and western Atlantic Ocean became effective on August 1, 2000 (65 FR 47213). To determine the socio-economic impact of this measure, NMFS summed the gross revenues per species for each vessel to arrive at the total gross revenues in the pelagic longline fishery, an average of \$137,126 per permit holder. NMFS then examined the impact of the closure if the fish were lost because of the time/area closure. This type of analysis indicates the maximum amount of gross revenues which could be lost because of a time/area closure.

Based on average price and weight data, the fishermen who reported landings from the DeSoto Canyon area in the pelagic logbook in 1998 had estimated gross revenues from the DeSoto Canyon ranging from \$681 to \$84,959 with an average of \$17,254 per permit holder. With the DeSoto Canyon closure alone, NMFS estimates that the average gross revenue per permit holder from all landings in the Gulf of Mexico and the Atlantic Ocean will decrease by 1.8 percent to \$134,705.

Fishermen who reported landings from the Florida East Coast and Charleston Bump closure areas in the pelagic logbook in 1998 had estimated gross revenues from this area ranging from \$435 to \$161,910 with an average of \$36,129 per permit holder, based on average price and weight data. With this closure alone, NMFS estimates that the average gross revenue per permit holder from all landings in the Gulf of Mexico and the Atlantic Ocean will decrease by 2.9 percent to \$133,114.

In general, the DeSoto Canyon, Charleston Bump, and East Florida Coast time/area closures could have significant social impacts on pelagic longline fishermen and related industries. The comments received mention that there are three basic alternatives for pelagic longline fishermen who currently fish in the closed areas under the final time/area actions. Pelagic longline

fishermen (e.g., permit holders, captain, crew) and their families could relocate their home ports to the open areas in order to recoup their losses under the closure. Commercial fishermen suggested that delaying implementation of the time/area closures could give fishermen and their families the time needed to relocate and could alleviate some of the economic impacts. There is also a possibility that vessels with home ports close to the open areas could safely fish in those open areas. However, there are vessels, particularly the smaller vessels home-based in FL and SC, that may be unable to transfer effort to the open areas due to safety concerns. NMFS received a number of comments concerning the safety of these smaller vessels. In addition, although these vessels that have home ports near the perimeters of the closed areas would not need time to relocate, they would still likely have significant economic impacts if they need to spend more time at sea in order to reach the open waters. If this occurs, the captains and crew who live in these areas may be away from home more than under the status quo. Some pelagic longline fishermen may decide or may be forced to leave the fishery altogether as a result of the regulations in this document.

Thus, the final closures could have three immediate impacts on fishing communities in the Gulf of Mexico and the South Atlantic Bight: 1) fishermen could spend more time away from home and their families, 2) fishermen could move from a community in the closed area to a community in the open area, or 3) fishermen could leave the fishery. If pelagic longline fishermen decide to move as a result of the final closures, communities outside, or near the edge of, the time/area closure might benefit. If pelagic longline fishermen move or leave the fishery, commercial communities within the closure areas could have substantial negative social impacts.

#### *Vessel Monitoring System Remand*

The HMS FMP which was published May 28, 1999 (64 FR 29090), required every pelagic longline fisherman that operates or owns a commercial vessel permitted to catch Atlantic highly migratory species to install a vessel monitoring system (VMS) unit and operate it whenever the vessel leaves port with pelagic longline gear onboard. The VMS primarily allows for enforcement of closed areas and increased safety at sea. NMFS required every HMS permitted pelagic vessel to install an approved unit by October 1, 2000. On September 25, 2000, the requirement of all pelagic longline fishers possessing a VMS was remanded to NMFS by the District Court for the District of Columbia for further consideration. Because of the proximity of the ruling to the effective date of the rule, some fishermen have purchased and installed a VMS unit to comply with the regulations.

The suspension of the VMS requirement may have placed an economic burden upon these fishermen. Currently, there are 13 VMS units that have been purchased and not returned or retained for business reasons. It can be assumed that some of these units were bought to comply with the regulation prior to its remand. The cost incurred by each fisherman ranges from \$2,499 to \$3,800 per unit plus installation fees depending upon the model. When the operating costs and the cost of repairs are considered, the VMS unit represents a substantial investment for the

average longline fisherman.

## 6.5 Conclusion

Social impact analyses should continue to be conducted and refined in terms of the techniques employed and how they can best be incorporated into management measures. The census and sampling data utilized in the regulatory actions are necessary and required to examine the impacts and benefits of proposed and selected alternatives. The continued process of updating existing data and supplementing it with new information is vital to improving the knowledge of managers with regard to each specific fishery. For example, the census and other public data, when combined with per-trip crew information, will allow fisheries managers to estimate regional differences in fishing effort and movement between fisheries. In addition, it will allow assessment of differing social service, employment, and retraining needs in different communities. Ethnographic data will further the understanding of regional and even extra-regional patterns of fishing and attitudes toward fishing and fisheries management, as well as the place of fishing within individual communities. These data will also provide the detailed information necessary to allow knowledge of fishing and the environment gained by fishermen to be usefully incorporated into fisheries management.

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